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EXAMINER				
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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/034,726  
Filing Date: December 19, 2001  
Appellant(s): CHALLENGER ET AL.

Michael Rocco Cannatti  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 7/21/2008 appealing from the Office action mailed 10/1/2007.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

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The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

6,345,292	Daugherty et al.	2-2002
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5,987,480	Donohue et al.	11-1999
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Borenstein, N. et al. RFC 1341. MIME (Multipurpose Internet Mail Extensions): Mechanisms for Specifying and Describing the Format of Internet Message Bodies. June 1992.

<http://www.ietf.org/rfc/rfc1341.txt>

Jech, Thomas. "Set Theory". Stanford Encyclopedia of Philosophy. Published 7/11/2002.

<http://plato.stanford.edu/entries/set-theory/>

Microsoft Computer Dictionary, Fifth Edition, p. 443, Microsoft Press, 2002.

Hampton, Kip. "High-Performance XML Parsing with SAX." XML.com. February 14, 2001.

<http://www.xml.com/pub/a/2001/02/14/perlsax.html>

"About SAX", "Genesis", FAQ. <http://sax.sourceforge.net>. FAQ last modified 11/28/2001.

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

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Claims 1, 8, 11-12, 19, 22-23 and 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Daugherty et al. (U.S. Patent No. 6,345,292).

In regard to claims 1, 12 and 23, Daugherty discloses a method, apparatus, and computer program product in a computer readable medium comprising *searching a cache to determine that a set of fragments associated with a set of source identifiers are not in the cache, wherein a source identifier identifies a source location for obtaining a fragment; sending a first request message comprising the set of source identifiers; and receiving a first response message comprising the set of fragments*. Daugherty discloses reading a XML data structure to determine what HTML clips are needed, searching a cache for those HTML clips, and providing the HTML clips to the requesting client. See Daugherty, column 5, line 49 – column 6, line 13. By this rationale claims 1, 12 and 23 are rejected.

In regard to claims 4-5, 15-16, and 26-27, Daugherty is applied as in claims 1, 12 and 23. Daugherty further discloses receiving a second request message; retrieving the set of source identifiers from the second request message, and sending a second response message comprising the set of fragments. Daugherty discloses use of a second server that supplies clips that were requested yet unavailable to the first server. See Daugherty, column 6, lines 39-46. The second request message and second response message are inherent to a request to a second server for clips unavailable to the first server. By this rationale claims 4-5, 15-16 and 26-27 are rejected.

In regard to claims 8, 19, and 30, Daugherty is applied as in claims 1, 12 and 23. Daugherty further discloses *a source identifier is formatted as a URI (Uniform Resource Identifier)*. See Daugherty, column 5, lines 60-65, which teaches that the cache key built based on the XML data structure includes the identification of the provider, which would be the *URI*. By this rationale claims 8, 19 and 30 are rejected.

In regard to claims 11, 22 and 33, Daugherty discloses *receiving a request message at a server, wherein the request message comprises a set of source identifiers for a set of fragments; generating a response message comprising the set of fragments; and sending the response message*. Daugherty has disclosed the client side of this operation in column 5, line 49 – column 6, line 13, as claimed in claims 1, 12 and 23. Claims 11, 22 and 33 are the server side of this operation. Since the client side has been described in

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claims 1, 12 and 23, the server side is inherent to the operation but can also be taught in column 5, line 49 – column 6, line 13 of Daugherty. By this rationale claims 11, 22 and 33 are rejected.

Claims 2-3, 13-14 and 24-25 rejected under 35 U.S.C. 103(a) as being unpatentable over Daugherty and Official Notice.

In regard to claims 2-3, 13-14, and 24-25, Daugherty is applied as in claims 1, 12 and 23. Daugherty fails to disclose that a fragment can link to more fragments using source identifiers. However, it would be obvious to one of ordinary skill in the art that the process could be repeated as many times as necessary on a retrieved fragment if the system detected that the retrieved fragment contained XML code linking to other fragments. Such a process is called recursion and the office takes Official Notice that recursion has been well known in the field of computer science for decades. By this rationale claims 2-3, 13-14 and 24-25 are rejected.

Claims 6-7, 17-18 and 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Daugherty and RFC 1341.

In regard to claims 6, 7, 17, 18, 28 and 29, Daugherty is applied as in claims 5, 1, 16, 12, 27 and 23. Daugherty fails to disclose the use of MIME for a response message. However, RFC 1341 discloses that MIME message formats have been in existence since June 1992. See RFC 1341, page 1. It would be obvious to one of ordinary skill in the networking art at the time of the invention to use MIME messaging formats for a multitude of purposes in conjunction with Daugherty, because MIME is a standard messaging format for the Internet that could be read on any terminal. By this rationale claims 6, 7, 17, 18, 28 and 29 are rejected.

Claims 9-10, 20-21 and 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Daugherty and Donohue (U.S. Patent No. 5,987,480).

In regard to claims 9, 20 and 31, Daugherty is applied as in claims 2, 13 and 30. Daugherty fails to disclose the use of SGML, but discloses the use of XML and HTML, which are other markup languages.

However, Donohue discloses that SGML is a common markup language. See Donohue, column 2, lines 2-3. It would be obvious to one of ordinary skill in the art to use SGML with Daugherty for a number of purposes, including as a linking element. Donohue gives motivation in column 1, lines 55-65, which states that markup languages can show where other portions of the document should be retrieved. By this rationale claims 9, 20 and 31 are rejected.

In regard to claims 10, 21 and 32, Daugherty is applied as in claims 1, 12 and 23. Daugherty fails to explicitly disclose the use of HTTP responses and requests. However, Donohue discloses that HTTP is the communications protocol for the web, and is used for data transfer. See Donohue, column 1, lines 42-54. It would be obvious to one of ordinary skill in the networking art to use HTTP with Daugherty for a multitude of purposes, including sending response and request messages, to build a web page in a browser. By this rationale claims 10, 21 and 32 are rejected.

#### **(10) Response to Argument**

Appellant argued that Daugherty failed to disclose searching a cache to determine that a set of fragments associated with a set of source identifiers are not in the cache, and then sending a first request message comprising the set of source identifiers previously determined to be missing from the cache. Appellant's entire argument concerning this appeal is the mathematical definition of a set, and how many elements must be present in a set in order for it to be considered a set of elements.

It is generally accepted that a set is a collection of objects or elements. The elements must meet a certain criterion in order to be considered part of the set. For example, the set of letters in the English alphabet consists of 26 elements, or letters, and would be expressed as  $\Omega = \{A, B, C, \dots, X, Y, Z\}$ , and the set of real integers between 1 and 4 would be expressed as  $R = \{2, 3\}$ . The number of elements in the set is based upon the criterion used to select the set.

If an individual chose to make a number of elements in a set contain fewer elements, it is possible to create a set with as many elements as necessary to fit the constraints of the set, including having a set that consists of a single element. It is acceptable in mathematical set theory to have a set consisting of zero elements, commonly known as an *empty set*.

Appellant appeals the Daugherty rejection. The rejection is over column 5, line 49-column 6, line 13 of Daugherty. In Daugherty, a cache is searched for the presence of HTML clips. If the clips are not present in the cache, additional caches are searched for the HTML clips. This is Appellant's exact invention.

Appellant's only argument against the Daugherty reference is that it fails to have enough elements to meet Appellant's set of fragments and set of source identifiers. If Daugherty was read in the most narrowly possible construction, Daugherty could be read to search for a single fragment with a single source identifier. Daugherty suggests otherwise in column 5, line 48..."The XML data structures may be cached" and in column 5, line 55, 57-58, and line 63 which reference "clips".

If Daugherty is so narrowly read as to only allow for a single element to be present in a set, then the Office is providing as evidence that a set can consist of a single element Dr. Thomas Jech's entry in the Stanford Encyclopedia of Philosophy which is a primer on mathematical set theory. Dr. Jech is currently a Professor at the Institute of Mathematics of the Academy of Sciences of the Czech Republic, and was a Professor at the Pennsylvania State University from 1974-2000. Dr. Jech's research is concentrated in the field of set theory, but also researches mathematical logic, algebra, analysis, topology, and measure theory. Dr. Jech presents in page 2 of the set theory tutorial a set pair  $A=B$ , where the pair of  $\{A,B\}$  where  $A=B$  consists of a single member  $\{A\}$ , also known as a singleton.

Appellant argued that Official Notice was improperly invoked to illustrate that recursion is well known in the art of computer science. Applicant's claims of determining if a set of linking elements for a set of next-level fragments, and scanning the fragment to retrieve source identifiers from the linking element, and retrieving and combining elements, are a recursive iteration of the Daugherty disclosure. The documentary evidence of recursion was provided in the final office action. Recursion is "the ability of a routine to call itself." Microsoft Computer Dictionary, Fifth edition, page 443. The SAX parser for XML acts recursively, and calls individual functions every time an element is detected in the serial parsing of an XML document. Each detection of a *fragment* in the XML document reviewed by Daugherty is treated as an event by the SAX parser, and as each *fragment* is detected, the same code is recursively called to treat each *fragment* separately until the entire document is parsed. Evidentiary support for this is given in

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Hampton, Kip, "High-Performance XML Parsing with SAX", [XML.com](http://www.xml.com/pub/a/2001/02/14/perlsax.html), February 14, 2001, <http://www.xml.com/pub/a/2001/02/14/perlsax.html>, and the "About SAX", "Genesis", and FAQ for <http://sax.sourceforge.net>, which detail the history of the SAX parser. The FAQ for <http://sax.sourceforge.net> was last modified on 28 November 2001, and the SAX parser started development on 13 December 1997, with a draft release on 12 January 1998 and SAX 1.0 released on 11 May 1998.

Appellant argued that RFC 1341 failed to teach the specifics of response messages containing multiple uncached fragments are sent as a multi-part MIME message. Appellant argued that SGML and HTTP were improperly combined with Daugherty. Appellant's argument fails to consider [KSR v. Teleflex](#), which allows for common sense to present a case of obviousness. Multi-part MIME messages, SGML, and HTTP were all well known to a skilled artisan at the time of invention. Using any of these basic technologies would have been considered common sense, since they were accepted internet standards. It would defy common sense not to look to Internet web and communication standards when creating an invention for Internet and web caching.

#### **(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Jeffrey R. Swearingen

/J. R. S./

Examiner, Art Unit 2445

/John Follansbee/

Supervisory Patent Examiner, Art Unit 2451

Conferees:

/Jason D Cardone/



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